

WHAT IS CLAIMED IS:

1. A radiation image sensing apparatus comprising:

an image sensing unit which is capable of  
5 non-destructive reading, adapted to sense an object  
image by allowing radiation from a radiation source to  
pass through an object; and

a control circuit adapted to perform control to  
stop emission of radiation from the radiation source on  
10 the basis of a signal obtained from said image sensing  
unit by non-destructive reading in the image sensing  
operation.

2. An apparatus according to claim 1, further  
15 comprising a switching circuit adapted to switch  
reading modes of said image sensing unit, said  
switching circuit switching the reading mode of said  
image sensing unit to a non-destructive reading mode in  
the image sensing operation.

3. An apparatus according to claim 1, wherein  
said image sensing unit includes a pixel portion  
including a photoelectric conversion element and a  
reading transistor, the photoelectric conversion  
25 element of the pixel portion being connected to a  
control terminal of the reading transistor.

4. An apparatus according to claim 3, wherein a load is connected to one main electrode terminal of the reading transistor, and the transistor is formed by an amplifier having a voltage amplification factor of substantially 1.

5. An apparatus according to claim 4, wherein the load is a constant current source or a resistor.

6. An apparatus according to claim 3, wherein a switching transistor adapted to select a pixel portion in a row direction is connected in series with the reading transistor.

7. An apparatus according to claim 3, wherein a reset transistor is connected in series with the photoelectric conversion element, and the reset transistor is controlled in accordance with a mode switching signal to switch the reading mode to a normal reading mode or a non-destructive reading mode.

8. An apparatus according to claim 1, wherein said control circuit comprises a pattern recognizing circuit adapted to perform pattern recognition on the basis of an output from said image sensing unit, a detection circuit adapted to detect a radiation amount on the basis of the pattern recognition result obtained

by the pattern recognizing circuit, and a generation  
circuit adapted to generate a reference value for a  
most appropriate radiation amount on the basis of the  
pattern recognition result obtained by the pattern  
5 recognizing circuit.

9. An apparatus according to claim 8, wherein  
said reference value is generated for a most  
appropriate radiation amount on the basis of the  
10 pattern recognition result obtained by the pattern  
recognizing circuit.

10. An apparatus according to claim 8, wherein  
said control circuit detects a radiation amount by  
15 using the detection circuit while performing  
non-destructive reading from said image sensing unit in  
the image sensing operation, and stops emission of  
radiation from the radiation source when the radiation  
amount becomes not less than the reference value.

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11. An apparatus according to claim 8, wherein  
said control circuit detects a most appropriate image  
sensing time while performing non-destructive reading  
from said image sensing unit in the image sensing  
25 operation, and stops emission of radiation from the  
radiation source when the image sensing time reaches  
the most appropriate image sensing time.

12. An apparatus according to claim 8, wherein said control circuit includes an addition circuit adapted to add outputs from said image sensing means.

5           13. An apparatus according to claim 12, wherein the addition circuit performs weighted addition based on a reference pattern.

10           14. An apparatus according to claim 13, wherein the reference pattern is generated on the basis of the pattern recognition result.

15           15. An apparatus according to claim 1, further comprising a difference circuit adapted to obtain a radiation image sensing output by subtracting an output from said image sensing unit which is obtained before emission of radiation from an output from said image sensing means which is obtained after emission of radiation from the radiation source is stopped.

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            16. An image sensing method for a radiation image sensing apparatus including an image sensing unit which is capable of non-destructive reading and adapted to sense an object image by allowing radiation from a radiation source to pass through an object, comprising

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            the step of performing control to stop emission of radiation from the radiation source on the basis of a

[illegible]